

# Lancaster West

## Becoming a model carbon zero estate

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Version 3



# Moving toward carbon zero – What are we doing?

|   | <b>What's the aim</b>   | <b>What's been done</b>   | <b>What's to come</b>   |
|---|---|---|---|
| <b>Mayors Energy Efficiency Fund</b>    | Secure funding to increase energy efficiency across the Lancaster West estate                     | <ul style="list-style-type: none"> <li>- Met with Amber Infrastructure</li> <li>- Completed data analysis on stock</li> <li>- Drafted feasibility study</li> </ul>  | <ul style="list-style-type: none"> <li>- Review feasibility outputs</li> <li>- Develop whole strategy</li> <li>- Agree approach and finance</li> <li>- Agree finance</li> </ul>   |
| <b>EnergieSprong Design Competition</b> | Explore innovative solutions for retrofitting and improving energy efficiency for Treadgold House | <ul style="list-style-type: none"> <li>- Outlined ambitions for the block</li> <li>- Provided data and analysis</li> <li>- Attended design competition launch event</li> <li>- Reviewed design competition entries</li> </ul>                     | <ul style="list-style-type: none"> <li>- Engage with winners of design competition to move forward with design proposal</li> <li>- Agree on detail of proposal</li> <li>- Plan next steps with proposal</li> </ul>  |
| <b>EnerPhit Retrofit Feasibility</b>    | Develop an example of what can be achieved by retrofitting homes to Enerphit standards.           | <ul style="list-style-type: none"> <li>- Identified that 50 Verity and Morland House has potential to become retrofitted to Passivhaus standards</li> <li>- Met with architect specialising in Passivhaus design to understand options</li> </ul> | <ul style="list-style-type: none"> <li>- Feasibility study on options to retrofit 50 Verity to Passivhaus standards</li> <li>- Carry out feasibility study into also retrofitting Morland House</li> <li>- Develop project plan and review spec and quotations for work</li> <li>- Engage with providers</li> </ul> |

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|--|--|---|--|
| <b>Ground Source Heat Pumps (GSHP)</b> | Explore a renewable alternative to our current carbon intensive district heating systems.  | <ul style="list-style-type: none"> <li>- Met with KENSA representative to discuss how GSHPs work and are installed.</li> <li>- Commissioned and received feasibility study of GSHPs around the estate.</li> </ul>   | <ul style="list-style-type: none"> <li>- Review proposals made in the feasibility study and costs involved.</li> <li>- Refine scope of the project and identify which blocks are suitable to pilot GSHPs.</li> </ul>   |
| <b>Switchee Smart Thermostats</b>      | Maintain the smart thermostat functionality of Nest, while getting more data on performance of assets and energy usage, enabling us to pre-empt repairs. | <ul style="list-style-type: none"> <li>- Met with representative from Switchee who demonstrated its benefits in comparison to the Nest smart thermostats now being installed in voids.</li> </ul>   | <ul style="list-style-type: none"> <li>- Pilot Switchee devices in void properties and gather feedback from residents on them in Open House events.</li> </ul>   |
| <b>Lancaster West Meadows</b>          | Increase biodiversity, improve the look of the green landscape around the estate and promote the well being of our residents.                            | <ul style="list-style-type: none"> <li>- Identified company to provide meadows suitable for the estate.</li> <li>- Site survey carried out and recommendations developed for where meadows should be situated on the estate, and which meadow type to use.</li> </ul> | <ul style="list-style-type: none"> <li>- After consulting with residents, create a pilot meadow on the estate based on previous recommendations.</li> <li>- Consider locations for potential GSHP boreholes when planning future meadows to avoid</li> </ul> |

# Our goal

Our goal is to help the Lancaster West estate build a sustainable future by becoming a net zero estate by 2030.

This means that there will be an overall balance between carbon emissions produced by the estate and taken out of the atmosphere.

*We've made progress already, but there is more to be done.*



**What have we  
achieved so far?**

In the next year, through the measures we have implemented, we are already on track to save:

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**30,300 KG** OF CO2  
EMISSIONS FROM  
ENTERING THE  
ATMOSPHERE



**1,456 LITRES** OF FOOD  
WASTE FROM ENTERING  
LANDFILL



**1.5 MILLION LITRES** OF  
WATER

However, if all properties adopted the energy saving measures we are implementing, this year we would be on track to save:

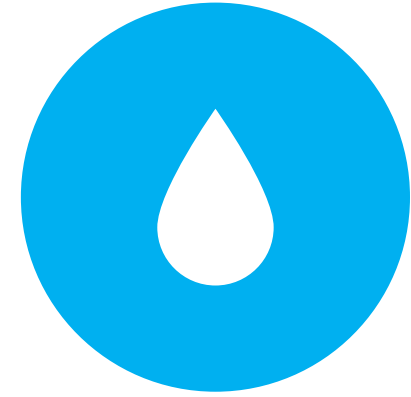
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**OVER 1.5 MILLION KG**  
OF CO2 FROM ENTERING  
ATMOSPHERE



**235,000 LITRES OF**  
FOOD WASTE FROM  
ENTERING LANDFILL



**24.45 MILLION LITRES**  
OF WATER

What measures have we  
been implementing?



# Summer 2018

30% of our repairs operatives, and 20% of LWNT staff are local residents and walk to work.

As a result of these staff members walking to work instead of commuting, each year around 5 tonnes of carbon emissions are saved from entering the atmosphere.

## Hired local staff

That's saving the equivalent weight of CO<sub>2</sub> as 3 cars!



Using cargo bikes, our repairs operatives are now cycling between jobs across the estate and transporting their tools.

This ensures our operatives can get to where to they are needed and saving a tonne of CO<sub>2</sub> emissions each year – the same weight as 2 polar bears!



## Introduced cargo bikes



# Autumn 2018

5 households have started collecting their food waste in small caddies, using a hot box composter to make compost for the community gardens. Hot box composters can work upto 32x faster than normal compost bins, so the compost is quickly ready for use.



In the past year, we estimate that up to 1,456 litres of food waste have been saved so far from going to landfill.

This is enough waste saved to fill 9 large bathtubs!

## *And if used across the whole estate?*

If every household across LancWest were to collect and recycle their food waste, up to 23,5000 litres of waste could be saved from going to landfill.

Enough to fill 20 concrete mixer trucks!

## Piloted composting



# Spring 2019

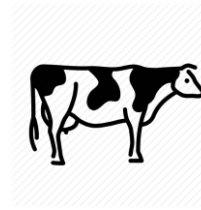
So far, 6 void properties have switched to and are using a net zero energy provider. As a result, each year, 31 tonnes of CO<sub>2</sub> will be saved from entering the atmosphere.

That's the same weight as 2 and a half pandas!



We've fitted all of the voids with LED light bulbs, which use 6x less energy than standard bulbs. Each standard bulb is replaced by approximately 4 LED bulbs.

By the end of next year, we will be on track to save 750kg of CO<sub>2</sub> – the same weight as a cow!

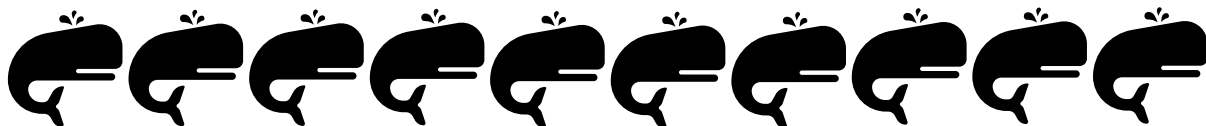


## Switched to net zero energy provider

*And if used across the whole estate?*

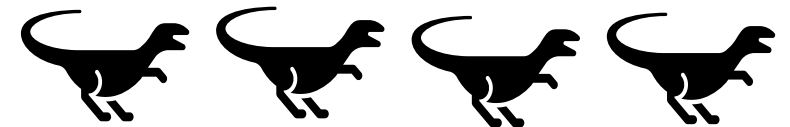
If the whole estate switched to net-zero energy providers, we would be saving 1,100 tonnes of CO<sub>2</sub> from entering the atmosphere each year.

That's the same weight as 10 blue whales!



## Installed LED lights

*And if used across the whole estate?*



If all properties managed by LWNT were fitted with LEDs instead of standard bulbs, assuming the estate had not yet switched to Bulb, 28 tonnes of CO<sub>2</sub> would be prevented from entering the atmosphere each year.

That's the equivalent weight as 4 t-rex!

# Spring 2019 cont.

We've been installing Nest 'Smart' Thermostats into void properties, which learn from resident heating preferences and adjusts the temperature accordingly. This is estimated to save between 8.4% - 16.5% of energy used for heating.

So far, the let voids with Nest installed will save up to an estimated 5085 kg worth of CO<sub>2</sub> emissions – the same weight as two and a half rhinos!



## Installed Nest Thermostats

*And if used across the whole estate?*

If all properties managed by LWNT were to start using a Nest Smart Thermostat, we would save around 349 tonnes of CO<sub>2</sub> from entering the atmosphere!

This is as heavy as around 30 double decker buses!



Gas has been removed in 4 let voids, and electric hobs and ovens have been installed, replacing their less efficient gas equivalents.

So far, 1170g of carbon emissions are being prevented from entering the atmosphere each year, the same weight as an octopus!



## Removed gas in voids

*And if used across the whole estate?*

If gas was removed in all properties managed by LWNT, assuming the properties had not switched to a net zero energy provider, we'd save around 41 tonnes of CO<sub>2</sub> emissions.

That's the same weight as around 7 elephants.



# Summer 2019

Methven 'Aurajet' shower heads are now being installed in all the voids, which save 25% of water used each shower (around 24 litres).

By the end of next year, we anticipate that per year we will be saving around 360,000 litres of water as a result of the installation of these shower heads in the voids.



## Methven Shower Heads

This means in a year, we will be saving enough water to fill 30 mixer trucks!



### *And if used across the whole estate?*

If the whole estate switched to Methven shower heads, we could be saving 13.4 million litres of water each year.

That's enough to fill 5 Olympic swimming pools!



# Autumn 2019

We are replacing the Lancaster West Neighbourhood Team's diesel VW Transport van with 2 zero-emission electric vans.

As a result, each year we could be saving around a tonne of CO<sub>2</sub> entering the atmosphere each year. That's the same weight as 1 and a half cows!



## Electric Vans



We are introducing dual flush toilets, which saves nearly 50% of the water used flushing a typical toilet.

In the next year, we are due to save 350,400 litres of water!

This is enough water to fill 2000 bathtubs

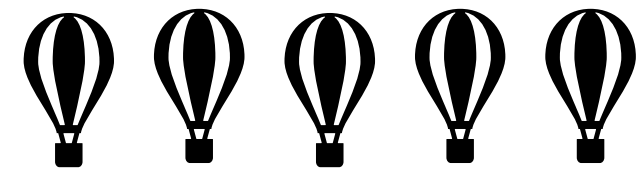


## Dual flush toilets

### *And if used across the whole estate?*

If dual flush toilets were installed in all properties managed by LWNT, we would be saving around 12 million litres of water each year.

This is enough water to fill 5 and a half hot air balloons!



**What's next?**

# **We are exploring a number of options within properties such as:**

- **Better insulation** – This will help to reduce heat loss from properties and in turn, reduce the amount of energy required to heat homes.
- **Double glazed windows** – A significant proportion of heat is lost through windows in each property, so replacing them with double glazed, sustainably sourced alternatives will reduce heat loss and the energy required to heat homes.
- **EnergieSprong** – An innovative approach to retrofitting homes to make them significantly more energy efficient. We are currently exploring if their approach could work at LancWest and are exploring securing a £19m loan from the GLA Mayor's Energy Efficiency Fund (MEEF) to fund it.



# **We are also exploring opportunities across the wider estate such as:**

- **Renewable district heating system, such as a ground source heat pump**
- **Urban wind**
- **Solar power**
- **Community energy company/sharing project**
- **Rainwater collection**
- **Using sustainable materials across the refurbishment project**
- **Planting meadows to encourage biodiversity**